



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,996	08/29/2003	Boris Y. Tsirlin	047717/274791	1995
826	7590	10/25/2007	EXAMINER	
ALSTON & BIRD LLP			DAO, MINH D	
BANK OF AMERICA PLAZA				
101 SOUTH TRYON STREET, SUITE 4000			ART UNIT	
CHARLOTTE, NC 28280-4000			PAPER NUMBER	
			2618	
			MAIL DATE	
			DELIVERY MODE	
			10/25/2007	
			PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/604,996

Applicant(s)

TSIRLINE ET AL.

Examiner

MINH D. DAO

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15-19,21-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15-19,21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 08/17/07 with respect to claims 15-19, 21-25 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or **in the knowledge generally available to one of ordinary skill in the art**. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine reference Forster and the Admitted Prior Art was to keep the insertion loss, mismatch, undesirable coupling among elements to a minimum. In addition, the background of any patent application is a prior art that is well known in the art.

DETAILED ACTION

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forster (US 2004/0195319) in view of Admitted Prior Art (APA) submitted by Applicant and further in view of Nash (US 4,371,876).

Regarding claim 15, Forster teaches a near field coupling device comprising: a plurality of lines electrically interconnected in parallel (see figs. 9,10; section [0083]); and a terminating resistor coupled to the lines (see section [0116]). However, Forster does not mention a ground plane spaced away from the plurality of lines. Admitted Prior Art submitted by Applicant in fig. 1 of the specifications teaches such limitation. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the teaching of Admitted Prior Art submitted by Applicant in order to keep the insertion loss, mismatch, undesirable coupling among elements to a minimum.

Art Unit: 2618

Still regarding claim 15, the combination of Foster and the APA does not mention that the terminating resistor is selected not to match a characteristic impedance of the plurality of lines. Nash, in an analogous art, teaches an slot array antenna having shunt conductances and a mismatched terminating network comprised a terminating resistor for the purpose of providing different antenna patterns based on desired amplitude and phase of each slot. The values of the capacitance and resistance and their relative positions are determined by a standard Smith chart techniques so that the impedance looking into the termination just to the right of the last conductance is a complement of the impedance looking back towards the generator at the same point (see figs. 5,6; col. 5, lines 19-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to introduce the above teaching of Nash to Foster and the APA in order to have a antenna system capable of providing multiple antenna patterns as taught by Nash.

Regarding claim 16, the combination of Forster, APA and Nash teaches the near field coupling device of claim 15, wherein the plurality of lines are formed as at least a first trace on a printed circuit board and the ground plane is formed as a second trace on a printed circuit board (see figs. 2a and 2b of APA).

Regarding claim 17, the combination of Forster, APA and Nash teaches the near field coupling device of claim 15, wherein at least one of the plurality of lines has a zig-zag characteristic (see figs. 9 and 10 of Forster).

Regarding claim 18, the combination of Forster, APA and Nash teaches the near field coupling device of claim 15, wherein the plurality of lines are spatially aligned coplanar and parallel to each other (see figs. 1, 2a, 2b of APA).

Regarding claim 19, the combination of Forster, APA and Nash teaches the near field coupling device of claim 15, wherein the length, width and interspacing of the plurality of lines is selected for a desired bandwidth (see Forster sections [0070-0071]).

4. Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forster (US 2004/0195319) in view Admitted Prior Art (APA) submitted by Applicant, Nash (US 4,371,876) and further in view of Petteruti et al. (US 6,409,401).

Regarding claim 21, the combination of Forster, APA and Nash, as mentioned above, teaches a near field coupler for communication with an transponder located in a transponder operating region, comprising: a near field coupler having a plurality of lines coupled to a terminating resistor selected not to match a characteristic impedance of the plurality of lines (see Nash, fig. 3B; col. 1, lines 5-27; col. 3, lines 8-48; col. 4, lines 35-46; col. 5, lines 6-16; and col. 7, lines 32-45); the near field coupler receiving an RF communication signal and configured to produce an array of spaced near field concentrations responsive to the RF communication signal (see Forster, figs. 1-10). However, Forster, APA and Nash do not disclose that the spacing of the near field

concentrations along a predetermined direction being significantly less than a smallest dimension of the transponder in the predetermined direction such that the transponder overlaps and is excited by a plurality of the field component when located in the transponder operating region. Petteruti discloses a system comprising an antenna 23 and RFID encoder 22, which serves as a transceiver adapted to communicate with a single transponder 16a located in a predetermined transponder operating region; the system configured to establish at predetermined transceiver power levels a mutual coupling which is selective exclusively for the single transponder located in the transponder operation region; transporting a web of labels through the transponder operating region, at least some of which labels have an RFID transponder, and wherein the method includes printing on the labels via print head 18; incrementally advancing the transponder within the transponder operating region, if the transponder is located at a field strength gap of the transponder operating region (i.e., via gap sensor 29); positioning a transponder in a transponder operating region with a transponder axis oriented along a predetermined direction (i.e., printing direction), the smallest dimension of the transponder in the predetermined direction being significantly less than a dimension of the transponder operating region in the predetermined direction (figs. 1-2; col. 2, line 46 through col. 4, line 32). Therefore, it would have been obvious to one of ordinary skilled in the art at the time of the invention was made to provide the above teaching of Petteruti to Forster, APA and Nash in order for the combined system to establish predetermined power levels a transponder as taught by Petteruti.

Art Unit: 2618

Regarding claim 22, the combination of Forster, APA, Nash and Petteruti teaches the coupler of claim 21 wherein said near field concentrations are formed by lines configured in an array with a spaced parallel geometry (see figs 9 and 10 of Forster).

Regarding claim 23, the combination of Forster, APA, Nash and Petteruti teaches the coupler of claim 22 wherein said lines comprise leaky edges formed in a microstrip coupler (see figs. 2a, 2b of APA).

Regarding claim 24, the combination of Forster, APA, Nash and Petteruti teaches the coupler of claim 22 wherein said lines have a Zig-zag configuration (see figs. 9 and 10 of Forster).

Regarding claim 25, the combination of Forster, APA, Nash and Petteruti teaches the coupler of claim 22 wherein said lines are formed as a trace on a printed circuit board having a separate ground plane (see figs. 1, 2a and 2b of APA).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH D. DAO whose telephone number is 571-272-7851. The examiner can normally be reached on 8:30 AM - 5:00 PM.

Art Unit: 2618

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MATTHEW ANDERSON can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MINH DAO
AU 2618

A handwritten signature in black ink, appearing to read 'Minh Dao', is written below the typed name.